Do Formal Intellectual Property Rights Hinder the Free Flow of Scientific Knowledge? An Empirical Test of the Anti-Commons Hypothesis

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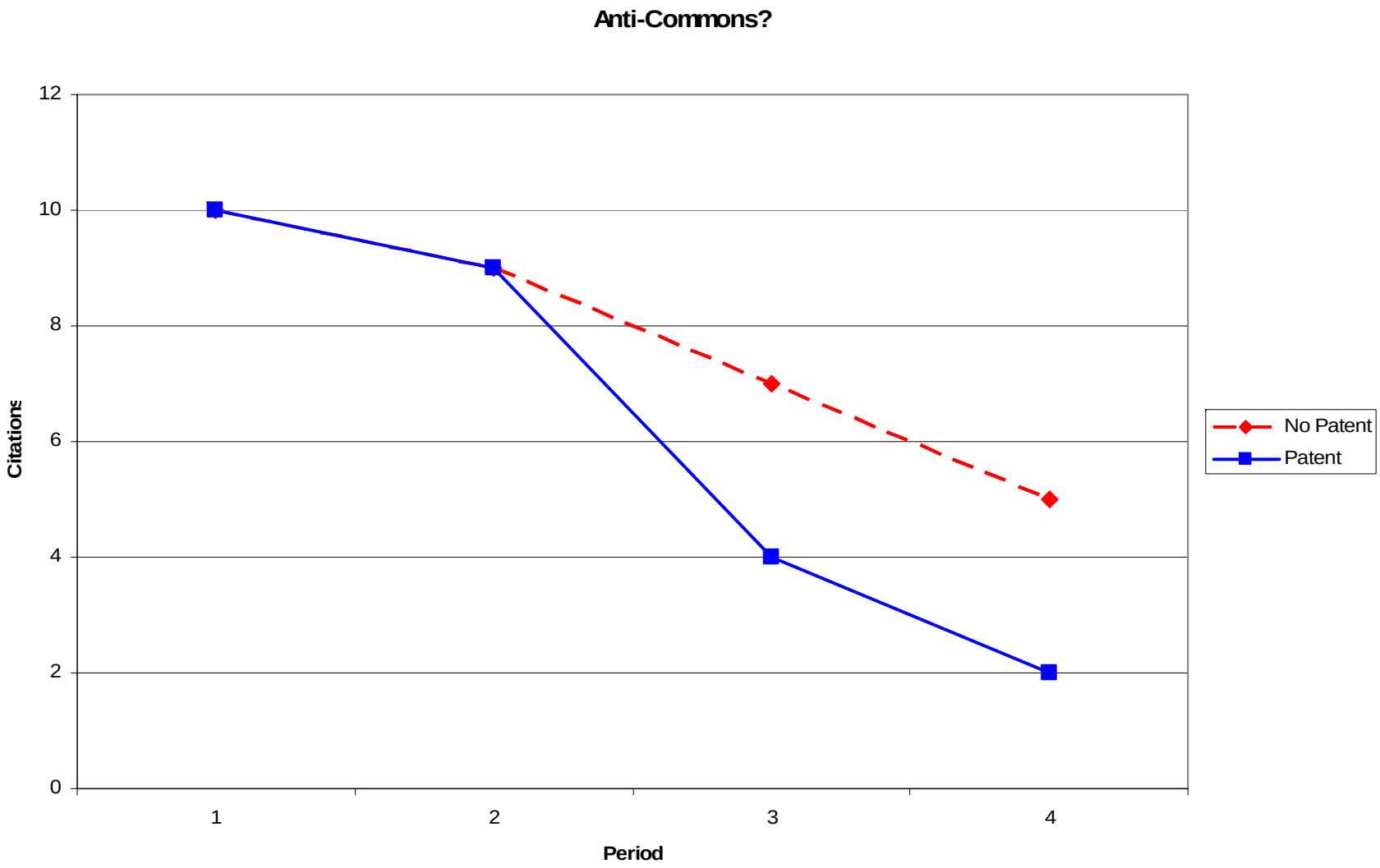
Anti-Commons Effect



First Several Specifications – compare citations of papers that *are* paired with a patent to citations of *similar* papers that are *not* paired with a patent.

- Regress Citations on article and year fixed effects, age, a dummy variable equal to one in the patent grant year, and a dummy variable equal to one after patent grant.

- Key Results:
  - Patented articles are associated with a 10-20% fall in their *expected* citation rate.
  - The effect is more pronounced when the article is written by public authors (knowledge of patents or strategy?).

Discussion

- Differences in Differences only appropriate when the treatment is random:
  - This is often a criticism of diffs and diffs using natural experiments, but seems to be particularly problematic here.

- Controls for differences in level of citations across articles, but assumes the change in citations over time is the same for all articles in the absence of a patent.
  - Citation patterns are the same for patented and unpatented articles:
    - Evaluates effect using only patented articles exploiting timing – effect disappears when article fixed effects are included.
    - Perhaps see if there is a difference in citation patterns prior to any patents across groups.
    - DDD analysis if you could find another control group.
  - Citation patterns are independent of level:
    - Test directly using number first period citations interacted with age effects for non-patented articles.

- What are the policy implications? Are patents issued on intellectual property bad?